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May 7, 2015

VIA ELECTRONIC FILING

The Honorable Jocelyn G. Boyd
Chief Clerk / Administrator
Public Service Commission of South Carolina
101 Executive Center Drive, Suite 100
Columbia, South Carolina 29211

**RE: Application of Duke Energy Carolinas, LLC. to Establish a Distributed
Energy Resource Program
Docket No. 2015-55-E**

Dear Mrs. Boyd:

Enclosed for filing on behalf of Duke Energy Carolinas, LLC, please find the Rebuttal Testimony of Emily O. Felt, Jose I. Merino, and Kim H. Smith in the above-referenced matter.

Please contact me if you have any questions concerning this filing.

Sincerely,

A handwritten signature in blue ink, appearing to read "Charles A. Castle", written over a light blue circular background.

Charles A. Castle

Enclosed

Cc: All parties of record

STATE OF SOUTH CAROLINA
BEFORE THE PUBLIC SERVICE COMMISSION
DOCKET NO. 2015-55-E

Application of Duke Energy Carolinas, LLC)
to Establish A Distributed Energy Resource)
Program) **CERTIFICATE OF SERVICE**

I hereby certify that the Rebuttal Testimony of Emily O. Felt, Jose I. Merino and Kim H. Smith on behalf of Duke Energy Carolinas, LLC, have been served by electronic mail (e-mail), hand delivery or by depositing a copy in United States Mail, first class postage prepaid, properly addressed to the parties of record.

This the 7th day of May, 2015.



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**BEFORE THE
PUBLIC SERVICE COMMISSION OF
SOUTH CAROLINA**

DOCKET NO. 2015-55-E

In the Matter of)	
)	
Application of)	REBUTTAL TESTIMONY
Duke Energy Carolinas, LLC to)	OF EMILY O. FELT
Establish a Distributed Energy)	ON BEHALF OF
Resource Program)	DUKE ENERGY CAROLINAS, LLC
)	
)	

1 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 A. My name is Emily O. Felt. My business address is 400 South Tryon Street, Charlotte,
3 North Carolina.

4 **Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

5 A. I am Manager of Strategy and Policy in the Distributed Energy Resources group at Duke
6 Energy Corporation.

7 **Q. DID YOU PREVIOUSLY CAUSE DIRECT TESTIMONY TO BE FILED IN THIS**
8 **DOCKET?**

9 A. Yes.

10 **Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?**

11 A. The purpose of my rebuttal testimony is to respond to certain aspects of the testimony of the
12 Coastal Conservation League ("CCL") and Southern Alliance for Clean Energy ("SACE")
13 witness John Wilson, CCL witness Hamilton Davis and The Alliance for Solar Choice
14 ("TASC") witness Justin Barnes as it pertains to the Duke Energy Carolinas, LLC's ("DEC"
15 or "the Company") application.

16 **Q. HOW DO YOU RESPOND TO CCL AND SACE WITNESS DAVIS' AND TASC**
17 **WITNESS BARNES' RECOMMENDATIONS THAT THE COMMISSION**
18 **REJECT THE COMPANY'S PROPOSAL TO USE SHARED SOLAR**
19 **SUBSCRIPTIONS THAT ARE LESS THAN 20 KILOWATTS ("KW IN SIZE TO**
20 **MEET ACT 236'S REQUIREMENT THAT THE COMPANY INCENTIVIZE**
21 **CUSTOMERS TO PURCHASE OR LEASE FACILITIES WITH A NAMEPLATE**
22 **CAPACITY NO GREATER THAN 20KW?**

23 A. The Company agrees that until customer participation and solar adoption rates are better
24 understood, the distributed energy resources that result from the Shared Solar Program

1 enrollment will not count toward Act 236's requirement that the Company incentivize
2 customers to purchase or lease facilities with a nameplate capacity no greater than 20
3 kilowatts ("kW"). The Company may revisit this request in the future if customer adoption
4 rates indicate that it may be unable to achieve the Act 236 requirements related to
5 renewable capacity 20 kW and less.

6 **Q. WITNESS DAVIS ASSERTS THAT SHARED SOLAR PROGRAM**
7 **ENROLLMENTS SHOULD BE PORTABLE FOR CUSTOMERS. DO YOU**
8 **AGREE?**

9 A. Yes, I do. As stated on page 1 of the proposed Shared Solar Tariff, "if the customer moves
10 and transfers electric service to another location within the Company's South Carolina
11 service territory, the customer will be allowed to continue service under this Rider at the
12 new location provided he continues his electric service under this rider."

13 **Q. WITNESS DAVIS ASSERTS THAT SHARED SOLAR PROGRAM**
14 **ENROLLMENTS SHOULD BE TRANSFERABLE BACK TO DEC OR TO**
15 **ANOTHER CUSTOMER WITHIN THE COMPANY'S SERVICE TERRITORY SO**
16 **THAT THE "MONETARY LOSS TO PARTICIPANTS WHO DISCONTINUE**
17 **SERVICE UNDER THIS RIDER IS NOT OVERLY PUNITIVE AND DOES NOT**
18 **DISCOURAGE PARTICIPATION." DO YOU AGREE?**

19 A. No, I do not. The Company projects that if a customer were to discontinue service or "exit
20 the program" prior to Years 4-5 of the subscription, that customer would incur some net
21 financial loss. That is, the energy credits that received in Years 1 through Year 3 essentially
22 "pay off" the cost of the application (\$20) and the cost of initial capacity (\$100 per watt
23 DC); by Years 4 or 5, the customer will be net cash flow positive. Given that there are no

1 termination fees for exiting the program and that the payback on the subscription is
2 generally swift, we believe that the proposed approach is reasonable and will not discourage
3 participation. Should experience prove otherwise, the Company is willing to examine
4 alternatives in subsequent iterations or modifications to the program.

5 **Q. WITNESS DAVIS ASSERTS THAT SHARED SOLAR PROJECTS SHOULD BE**
6 **SITED IN COMMUNITIES THAT WILL BENEFIT FROM THEM. WHAT IS THE**
7 **COMPANY'S PLAN FOR SITING ITS SHARED SOLAR FACILITIES?**

8 **A.** National experience suggests that visibility and participation are indeed linked. The
9 Company proposes to solicit proposals for Shared Solar facilities, each 1,000 kW in size or
10 less, located in communities throughout the Company's South Carolina retail service area,
11 and proximate to potential subscribers. For example, the Company would prefer that its
12 Shared Solar facilities were sited in areas visible to the general public and perhaps even
13 within view of educational institutions, rather than in low-visibility, low-traffic areas. As
14 with many other aspects of its proposed programs, the Company is willing to consider
15 options upon implementation. However, I believe that creating unduly prescriptive
16 locational constraints for our proposed Shared Solar is unnecessary at this time as it could
17 delay and impair our ability to roll out the programs.

18 **Q. WITNESS DAVIS FURTHER PROPOSES THAT DEC ALLOW THE INITIAL**
19 **SUBSCRIPTION CHARGES FOR THE SHARED SOLAR PROGRAM TO BE**
20 **PAID UP-FRONT OR OVER THE LENGTH OF THE SUBSCRIPTION TERM**
21 **AND THAT THE COMPANY WAIVE SOME OR ALL OF THE INITIAL**
22 **SUBSCRIPTION CHARGE FOR LOW-INCOME CUSTOMERS.**

23 **A.** Witness Davis proposes improving the attractiveness of the Shared Solar Program by

1 lowering the cost of participation and/or providing customers with a “pay-as-you-go” or “on
2 bill financing” option. Both are good suggestions that the Company will consider in future
3 iterations of the program should initial customer response be underwhelming.

4 **Q. CCL WITNESS DAVIS AND TASC WITNESS BARNES RECOMMEND THAT**
5 **THE COMPANY ELIMINATE THE CALENDAR YEAR CAPACITY**
6 **LIMITATION IN ITS SOLAR REBATE PROGRAM AND INSTEAD CONSIDER A**
7 **SCHEDULED STEP-DOWN APPROACH TO MODIFICATION OF ITS SOLAR**
8 **REBATE PROGRAM IN ORDER TO IMPROVE THE TRANSPARENCY AND**
9 **PREDICTABILITY OF THE PROGRAM. DO YOU AGREE?**

10 **A.** Witnesses Davis and Barnes raise valid concerns on this issue and Company witness Merino
11 speaks to DEC’s position on their argument. However, in an effort to avoid growth
12 disruptions related to the calendar year limit, the Company proposes to eliminate the
13 calendar year limitation within its Solar Rebate tariffs and will instead propose to review,
14 evaluate and propose a new Solar Rebate level when the aggregate capacity limit or
15 “tranche” stated in the tariff is reached. The Company will make such proposals subject to the
16 modification parameters proposed by the ORS, and will use reasonable efforts to allow for
17 an uninterrupted transition from one Solar Rebate tranche to the next. Although an
18 automatic step-down approach to the Solar Rebate was initially discussed, the Company
19 ultimately decided that it would be more prudent to more closely monitor the rebate’s
20 effectiveness upon each successive tranche of capacity energized than to fix the rebate levels
21 for the next half dozen years today, particularly given the swiftness with which installed cost
22 of solar has dropped in years past and given the uncertainty in extension or expiry of the
23 federal tax incentives for solar 2016.

1 **Q. DOES THIS CONCLUDE YOUR PRE-FILED REBUTTAL TESTIMONY?**

2 **A. Yes, it does.**

DOCKET NO. 2015-55-E

Application of Duke Energy Carolinas, LLC to Establish a Distributed Energy Resource Program

)))))))))

**REBUTTAL TESTIMONY OF
JOSE I. MERINO ON BEHALF
OF DUKE ENERGY
CAROLINAS, LLC**

1 CCL witness Wilson's recommendation and allow the Company to solicit bids with 10
2 year terms through its RFP. Further, I believe the Commission should allow the
3 Company to proceed as set forth within its Application regarding its Solar Rebate levels
4 and Shared Solar term.

5 **Q. SACE AND CCL WITNESS WILSON ALLEGES THAT LIMITING THE RFP**
6 **SOLICITATION TO PPAS WITH 10 YEAR TERMS WILL LEAD TO THE**
7 **COMPANY ACCEPT "UNNECESSARILY EXPENSIVE PRICES". DO YOU**
8 **AGREE WITH THIS CONCLUSION?**

9 A. I do not agree. The Company will make a selection based on criteria that includes the
10 purchase power price as well as other contract attributes. The Company is not obligated
11 to make a selection from the bids received through the proposed solicitation if it
12 considers that the prices and terms included in the proposals are not in alignment with its
13 DER program goals or in the best interest of its South Carolina retail customers.

14 **Q. ARE LONGER TERM PPAS TO DEVELOPERS PREFERABLE FOR UTILITY**
15 **CUSTOMERS?**

16 A. No, they are not. If long-term PPAs are executed at a fixed price for the duration of the
17 contract, utilities can be exposed to unnecessarily high costs if market prices decline in
18 the future. Alternatively, if future market prices are higher than the executed PPA price, a
19 longer-term PPA may prove advantageous for utilities and its customers. Unfortunately,
20 it is very difficult to predict future energy costs with a high degree of accuracy; that is
21 why the Company procures coal, natural gas and other fuels by relying on contracts
22 which generally do not exceed 5 years.

1 delivered from a facility in Darlington, SC,. Although the actual pricing within the PPA
2 is confidential and market sensitive information, it bears noting that the Darlington PPA,
3 approved for filing by the Commission in Docket No. 2015-146-E, was entered into
4 pursuant to the Company's obligations under the Public Utility Regulatory Policy Act of
5 1978 ("PURPA"), which creates a ceiling for the cost to be paid by the utility at its
6 avoided cost. Further, developers entering into shorter term PPAs with the Company
7 have the option to renew or negotiate a new agreement at the expiration of the contract,
8 based on the Company's avoided costs at that time.

9 **Q. PLEASE EXPLAIN WHY THE COMPANY CHOSE 10 YEARS AS THE**
10 **DESIRED TERM FOR PPA BIDS IN THE PROPOSED RFP.**

11 **A.** The Company selected 10 years as the maximum duration of PPA proposals for the
12 following reasons: to maintain the total costs of the DER program at acceptable levels; to
13 be consistent with the duration of other components of the DER program, such as the
14 NEM incentive and the Shared Solar incentive; to avoid locking in a fixed price for a
15 period longer than most fuel purchases and to mitigate performance risk; and to avoid
16 perpetuating the cost recovery and associated bill impact to South Carolina customers.

17 **Q. ARE PPAS ENTERED INTO IN OTHER JURISDICTIONS PURSUANT TO**
18 **STATE-SPECIFIC POLICY REQUIREMENTS RELEVANT TO THE**
19 **COMPANY'S COMPLIANCE WITH ITS ACT 236 REQUIREMENTS?**

20 **A.** Not necessarily. The PPAs executed in other jurisdictions may be governed by different
21 regulations and policy constraints, their prices may set based on different economic
22 assumptions and underlying required inputs, such as jurisdictional specific electric rates,
23 and the budgets or funding set by state specific policy requirements will vary. Further,

1 Q. IN SUM, DO YOU BELIEVE THE COMPANY'S PROPOSED RFP
2 SOLICITATION WILL YIELD REASONABLE RESULTS THAT WILL
3 BENEFIT ITS CUSTOMERS AND COMPLY WITH ACT 236?

4 A. Yes, I do.

5 Q. CCL AND SACE WITNESS DAVIS AND TASC WITNESS BARNES BOTH
6 ADVOCATE FOR AND PROPOSE A STEPDOWN INCENTIVE APPROACH
7 WHERE INCENTIVES WILL DECLINE BASED ON ACHIEVING CERTAIN
8 BENCHMARKS SUCH AS MW CAPACITY TARGETS AND BUDGET LEVELS,
9 TO ENHANCE THE TRANSPARENCY AND PREDICTABILITY OF THE
10 MARKET. DO YOU AGREE WITH THIS PROPOSAL?

11 A. I agree with Mr. Davis and Mr. Barnes that a prescribed formula which sets the projected
12 incentive level as a function of budget availability, capacity penetration or technology
13 costs could present enhanced transparency or predictability to the marketplace. However,
14 the Company believes that at this time, it is premature to assume predefined relationship
15 between incentives and market conditions for rebate scale down planning, without
16 learning more about how the market will react to the rebates that the Company proposed
17 to start. It is more prudent to discuss their proposals once more data is available to
18 validate the connection between incentives and renewable penetration in South Carolina.
19 The Company will diligently monitor market conditions and perform an evaluation of
20 actual penetration vs. the projections used in its DER application, before presenting
21 recommendations for different incentives, products or both. The Company agrees with
22 Mr. Davis suggestion to establish a web-based tracking mechanism that can be used to
23 provide an update on potential benchmark variables.

1 and other factors to ensure that both customers and the Company are protected against
2 adverse events that can occur as contract term increases. Thus, it is not realistic to assume
3 that extending the Shared Solar contract period automatically creates a positive price
4 hedge for customers.

5 **Q. IS THE COMPANY OPEN TO CONSIDER DIFFERENT APPROACHES, LIKE**
6 **THOSE PROPOSED BY CCL WITNESS DAVIS AND TASC WITNESS**
7 **BARNES, AS IT GATHERS ADDITIONAL MARKET AND CUSTOMER**
8 **PARTICIPATION DATA THROUGH THE IMPLEMENTATION OF ITS DER**
9 **CUSTOMER PROGRAMS?**

10 **A.** Yes. We anticipate gaining significant insight and information into the South Carolina
11 market through the initial implementation of our programs. We will continue to evaluate
12 and revisit our initial assumptions and modeling and make any necessary adjustments to
13 attempt to achieve the goals of Act 236. At this time, however, we believe the approach
14 proposed within our Application is reasonable and appropriate to reach such goals.

15 **Q. DOES THIS COMPLETE YOUR REBUTTAL TESTIMONY?**

16 **A.** Yes.

**BEFORE THE
PUBLIC SERVICE COMMISSION OF
SOUTH CAROLINA**

DOCKET NO. 2015-55-E

In the Matter of)	
)	
Application of)	REBUTTAL TESTIMONY
Duke Energy Carolinas, LLC to)	OF KIM H. SMITH
Establish a Distributed Energy)	ON BEHALF OF
Resource Program)	DUKE ENERGY CAROLINAS, LLC
)	
)	

1 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 A. My name is Kim H. Smith. My business address is 550 South Tryon Street, Charlotte,
3 North Carolina.

4 **Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

5 A. I am Rates Manager for Duke Energy Carolinas LLC ("Duke Energy Carolinas," "DEC"
6 or the "Company").

7 **Q. DID YOU PREVIOUSLY CAUSE DIRECT TESTIMONY TO BE FILED IN THIS**
8 **DOCKET?**

9 A. Yes.

10 **Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?**

11 A. The purpose of my rebuttal testimony is to respond to certain aspects of the testimony of
12 Southern Alliance for Clean Energy ("SACE") and Coastal Conservation League ("CCL")
13 witness John D. Wilson as it pertains to the Company's application.

14 **Q. IN HIS TESTIMONY, SACE AND CCL WITNESS WILSON DESCRIBES THE**
15 **COMPANY'S RECOVERY OF THE COSTS INCURRED TO MEET THE TIER I**
16 **CAPACITY REQUIREMENT. SPECIFICALLY, HE STATES THAT HE**
17 **BELIEVES "IT WOULD BE APPROPRIATE FOR THE COMPANIES TO**
18 **RECOVER ANY EXCESS COST ABOVE THE VALUE OF DER GENERATION,**
19 **AS COMPUTED USING THE ORS METHODOLOGY, AS A DER PROGRAM**
20 **EXPENSE. THE PORTION OF THE COST THAT IS EQUAL TO, OR LESS**
21 **THAN, THE VALUE OF DER GENERATION SHOULD BE RECOVERED**
22 **THROUGH THE FUEL CLAUSE, IF A PPA, OR THROUGH BASE RATES, IF**
23 **ACQUIRED AS A TURNKEY PROJECT." DO YOU AGREE WITH HIS**
24 **CHARACTERIZATION OF THE COMPANY'S RECOVERY OF ITS COSTS?**

1 A. No, I do not.

2 **Q. IS THE APPROPRIATE DEMARCATION LINE FOR THE ALLOCATION OF**
3 **DISTRIBUTED ENERGY RESOURCE (“DER”) PROGRAM COSTS BETWEEN**
4 **AVOIDED COSTS AND INCREMENTAL COSTS “THE VALUE OF DER**
5 **GENERATION?”**

6 A. No. Based on the explicit language of Act 236, it is “the electrical utility’s avoided cost
7 rate.” S.C. Code § 58-39-140(A)(1) states that “avoided cost” for purposes of separating
8 total DER program costs between incremental and avoided costs is “all costs paid under
9 avoided cost rates, or negotiated rates pursuant to PURPA, whichever is lower, shall be
10 considered an avoided cost under Section 58-39-120(B) and shall be recovered under
11 Section 58-27-865.” In addition, Section 58-39-140(A)(1) further defines incremental cost
12 as being “[t]he cost an electrical utility incurs in excess of the electrical utility’s avoided cost
13 rate, as defined in this section.”

14 **Q. SECOND, WOULD THE “AVOIDED COSTS” OF A UTILITY-OWNED PROJECT**
15 **CONSTRUCTED OR ACQUIRED TO COMPLY WITH ACT 236 BE**
16 **RECOVERABLE UNDER THE FUEL FACTOR?**

17 A. Yes. The language of S.C. Code § 58-39-140(A)(1) states that “all costs paid under avoided
18 cost rates, or negotiated rates pursuant to PURPA, whichever is lower, shall be considered
19 an avoided cost under Section 58-39-120(B) and shall be recovered under Section 58-27-
20 865.” Further, Section 58-27-865(A)(1) states that “[t]he incremental and avoided costs of
21 distributed energy resource programs and net metering as authorized and approved under
22 Chapters 39 and 40, Title 58 shall be allocated and recovered from customers under a
23 separate distributed energy component of the overall fuel factor that shall be allocated and

1 recovered based on the same method that is used by the utility to allocate and recover
2 variable environmental costs.”

3 **Q. SO TO THE EXTENT IT INVESTS IN DER IN THE FUTURE TO COMPLY**
4 **WITH ACT 236, THE COMPANY’S COSTS WOULD ALL BE RECOVERED**
5 **THROUGH THE FUEL FACTOR?**

6 A. Yes, that is correct. Both the incremental and avoided cost portions would be recovered
7 through the Company’s DER component to the overall fuel factor.

8 **Q. DOES THIS CONCLUDE YOUR PRE-FILED REBUTTAL TESTIMONY?**

9 A. Yes, it does.